U.S. Patent Application No. 10/689,755
Amendment dated August 11, 2008
Reply to Office Action of May 9, 2008

REMARKS/ARGUMENTS

Reconsideration and continued examination of the above-identified application are respectfully requested.

By way of this amendment, claims 1-11 and 13-21 are pending. Claims 1, 4, 5, and 15 have been amended to recite the subject matter of claim 12. Claim 12 has been canceled without prejudice or disclaimer. New claims 20 and 21 have been added by this amendment. Support for the amendments to the claims and new claims 20 and 21 can be found in previous claim 12 and throughout the present application, including the drawings and claims, for instance, at page 7, lines 8-18, at page 8, lines 9-15, and FIG. 1 of the originally filed application.

Accordingly, support for this amendment exists and no questions of new matter arise. Entry of this amendment is respectfully requested.

Rejection of claims 1, 4, 5, 12, and 13 under 35 U.S.C. §103(a) -- Yamagata in view of Tsuchiya et al.

At page 2, item 2, of the Office Action, the Examiner rejects claims 1, 4, 5, 12, and 13 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yamagata (U.S. Patent No. 6,021,222) in view of Tsuchiya et al. (U.S. Patent No. 5,475,766). The Examiner asserts that Yamagata discloses an edge window setting unit for detecting edges of an image, an element setting unit for selectively setting a plurality of window elements in the one edge window set by said edge window setting unit, and an edge detection unit for scanning each of the window elements and obtaining edges for each window element. This rejection is respectfully traversed.

By this amendment claim 12 has been canceled without prejudice or disclaimer, thereby rendering the rejection of claim 12 moot. Claim 1 features an image processing apparatus comprising an edge window setting unit for setting an edge window and an element setting unit for

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selectively setting a plurality of window elements in the edge window. The edge window has a

height equal to the height of the plurality of window elements. Neither Yamagata nor Tsuchiya et al.

teach or suggest such an apparatus comprising such features.

      Yamagata describes a system and method for the detection of a circular image. Specifically,

Yamagata describes using a gradient vector calculator to find potential edges of a circular object. In

an effort to achieve the features of claim 1, the Examiner is asserting that the gradient vector

calculator of Yamagata is the equivalent of the edge window setting unit, and the neighborhoods of

FIGS. 4A and 4B are the equivalent of the plurality of window elements (page 2, item 2, of the

Office Action). Applicants respectfully disagree with this assertion. Claim 1 features an element

setting unit for selectively setting a plurality of window elements in the edge window, an example

of which can be seen in FIG. 1 of the present application. This is very different from the gradient

vector calculator and the neighborhoods of Yamagata. As described in Yamagata, the gradient

vector calculator determines a center pixel for each neighborhood of pixels. See column 7, line 60

through column 8, line 4. As will be appreciated, the gradient vector calculator is not setting an edge

window, rather, it is determining a center pixel for a neighborhood of pixels (A, B, and C). See

FIGS. 4A-4B. As will be fully explained below, the Examiner is asserting that the neighborhoods

(A, B, and C) are the equivalent of two components of claim 1.

      In a first instance, at page 2, lines 18-20 of the Office Action, the Examiner is asserting that

the gradient vector calculator is the equivalent of an edge window setting unit for setting an edge

window for detecting edges of a workpiece. The gradient vector calculator determines the center

pixel for the neighborhoods. Thus, the Examiner is implying that the neighborhoods (A, B, and C)

partially generated by the gradient vector calculator, are each the equivalent of an edge window. In a

second instance, at page 3 of the Office Action, lines 1-3, the Examiner is asserting that the

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neighborhoods (A, B, and C) are the equivalent of the plurality of window elements set within the

edge window. The neighborhoods can not act as both the edge window and the plurality of window

elements. The Examiner is incorrectly asserting features of Yamagata that do not correctly achieve

the features of claim 1. Furthermore, Yamagata fails to teach or suggest a plurality of window

elements set within an edge window, let alone, a combination of where the edge window and the

plurality of window elements are the same height. Yamagata also fails to describe a plurality of

window elements capable of mutually overlapping in the width direction of an edge window. As a

result, Yamagata fails to teach or suggest the features of claim 1.

    At page 3, lines 18-20 of the Office Action, the Examiner asserts that Yamagata discloses an

edge window and a plurality of window elements that have an equal height. The Examiner points

specifically to FIGS. 4A and 4B of Yamagata. At page 9 of the Office Action, the Examiner states

that, "Yamagata and Lopez . . . do not disclose window element has (sic) a height equal to the

height of the edge window set by said edge window setting unit." The Examiner appears to

contradict the position taken in the Office Action. These statements are both confusing and

misleading. As a result, Applicants can not fully respond to either assertion. Moreover, Applicants

respectfully submit that there is nothing in Yamagata that teaches or suggests an element setting

unit, let alone, an element setting unit for setting windows in an edge window, where both the edge

window and the window elements have an equivalent height.

    At page 3 of the Office Action, the Examiner states that Yamagata does not teach or suggest

a plurality of window elements capable of mutually overlapping in the width direction. The

Examiner asserts Tsuchiya et al., specifically FIG. 20, as disclosing such a feature. Applicants

respectfully disagree. Tsuchiya et al. describes a pattern inspection apparatus with corner rounding

of reference pattern data. There is nothing shown in FIG. 20, nor is there anything described in the

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corresponding description of Tsuchiya et al. that teaches or suggests a plurality of window elements capable of mutually overlapping in the width direction of an edge window. Furthermore, even if the combination of Yamagata and Tsuchiya et al. is proper, Tsuchiya et al. fails to overcome any of the above mentioned deficiencies of Yamagata with respect to claim 1. As a result, the rejection of claim 1 is deemed to be overcome. Claim 13 depends from claim 1, and the rejection of claim 13 is deemed to be overcome for at least the same reasons that the rejection of claim 1 is deemed to be overcome.

Claim 4 features a record medium including a program executable on an image processing apparatus. The program comprises instructions having multiple functions, including a function of setting an edge window and a function of setting a plurality of window elements in the edge window. The window elements are capable of mutually overlapping and the edge window and the plurality of window elements have an equal height. As mentioned above, neither Yamagata nor Tsuchiya et al., alone or in combination, even if such combination were proper, teach or suggest such features. In view of this, the rejection of claim 4 is deemed to be overcome.

Claim 5 features an image processing method comprising setting an edge window and setting a plurality of window elements in the edge window. The window elements are capable of mutually overlapping in the width direction of the edge window, and the edge window has a height that is equal to the height of the plurality of window elements. As mentioned above, neither Yamagata nor Tsuchiya et al., alone or in combination, even if such combination were proper, teach or suggest such features. In view of this, the rejection of claim 4 is deemed to be overcome.

Accordingly, the rejection should be withdrawn.

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Rejection of claims 2, 3, 6, and 7-11 under 35 U.S.C. §103(a) – Yamagata in view of the Official Notice and Lopez et al.

At page 4, item 3 of the Office Action, the Examiner rejects claims 2, 3, 6, and 7-11 under 35 U.S.C. §103(a) as allegedly being unpatentable over Yamagata, in view of the Official Notice as applied to claim 1, and further in view of Lopez et al. (U.S. Patent No. 6,148,117). This rejection is respectfully traversed.

The current rejection of claim 1 does not involve any Official Notice. The Examiner's assertion that there is an Official Notice is incorrect. Furthermore, at page 5 of the Office Action, the Examiner also refers to Tsuchiya et al. as disclosing the limitations of the image processing apparatus of claim 1. The Applicants respectfully point out that Tsuchiya et al. is not apart of this rejection. Both of these statements are confusing and incorrect. By the Examiner's own statements, Yamagata does not teach all the limitations of claim 1. Therefore, this rejection is unclear and Applicant cannot fully respond to it.

Further, Lopez et al. describes a method for image processing combining a device-specific image processing kernel operation with a general image processing kernel. However, with regards to claims 1, 4, and 5, Lopez et al. fails to overcome the previously stated deficiencies of the Yamagata reference, even if a combination of the references was proper. Accordingly, claims 1, 4, and 5 are deemed to be allowable over Yamagata in view of Lopez et al. Claims 2, 3, 8, and 9 each depend from claim 1, and claims 2, 3, 8, and 9 are deemed to be allowable for at least the same reasons that claim 1 is deemed to be allowable. Claims 6, 7, 10, and 11 each depend from claim 5, and claims 6, 7, 10, and 11 are deemed to be allowable for at least the same reasons that claim 5 is deemed to be allowable.

Accordingly, this rejection should be withdrawn.

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Rejection of claim 14 under 35 U.S.C. §103(a) – Yamagata in view of Tsuchiya et al. and further in view of Kobayasi et al.

At page 6, item 4 of the Office Action, the Examiner rejects claim 14 under 35 U.S.C. §103(a) as allegedly being unpatentable over Yamagata, in view of Tsuchiya et al., and further in view of Kobayasi et al. (U.S. Patent No. 5,136,661). This rejection is respectfully traversed.

Kobayasi et al. describes a position recognizing method and apparatus to determine an edge of an object by scanning the object and using the density of the scanned object. Kobayasi et al., however, fails to cure the deficiencies of Yamagata and Tsuchiya et al. with regards to claim 1, even if such combination of references were proper. As a result, claim 1 is deemed allowable over Yamagata, in view of Tsuchiya et al., and further in view of Kobayasi et al. Claim 14 depends from claim 1, and the rejection of claim 14 is deemed allowable for at least the same reasons that claim 1 would be deemed allowable.

Accordingly, this rejection should be withdrawn.

Rejection of claims 15 and 17 under 35 U.S.C. §103(a) -- Yamagata in view of the Official Notice and further in view of Lopez et al.

At page 7, item 5 of the Office Action, the Examiner rejects claims 15 and 17 under 35 U.S.C. §103(a) as allegedly being unpatentable over Yamagata in view of the Official Notice as applied to claim 1, and further in view of Lopez et al. This rejection is respectfully traversed.

As previously stated, the current rejection of claim 1 does not involve an Official Notice. As such, Applicants can not fully respond to this rejection. Claim 15 features an image processing apparatus comprising an edge window setting unit for setting an edge window for detecting an edge of a workpiece and an element setting unit for selectively setting at least one window element in the one edge window set by said edge window setting unit. The edge window

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has a height equal to the plurality of window elements. As previously pointed out, Yamagata fails

to teach or suggest any of these features. Furthermore, claim 1 also includes the feature that a

user defines at least one of the number of window elements and the width of each of the window

elements. This is a feature that Yamagata fails to teach or suggest. Lopez et al. fails to cure any of

the deficiencies of Yamagata, even if combination of the two references were proper.

Accordingly, the rejection of claim 15 is deemed to be overcome. Claim 17 depends from claim

15, and the rejection of claim 17 is deemed to be overcome for at least the same reasons that the

rejection of claim 15 is deemed to be overcome.

Accordingly, this rejection should be withdrawn.

Rejection of claim 18 under 35 U.S.C. §103(a) – Yamagata in view of the Official Notice in view of Lopez et al. and further in view of Tsuchiya et al.

At page 8, item 6 of the Office Action, claim 18 is rejected under 35 U.S.C. §103(a) as

allegedly being unpatentable over Yamagata, in view of the Official Notice, in view of Lopez et

al., and further in view of Tsuchiya et al. This rejection is respectfully traversed.

Applicants would again like to point out that the rejection of claim 1 does not involve an

Official Notice. As such, the Applicants can not fully respond to this rejection. As previously stated,

Yamagata fails to teach or suggest all of the limitations of claim 15. Furthermore, neither Lopez et

al. nor Tsuchiya et al. cure the deficiencies of Yamagata, even if combination of the three references

were proper. Accordingly, claim 15 is deemed to be allowable over Yamagata, in view of Lopez et

al., and further in view of Tsuchiya et al. Claim 18 depends from claim 15, and claim 18 is deemed

to be allowable for at least the same reasons that claim 15 is deemed to be allowable.

Accordingly, this rejection should be withdrawn.

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Rejection of claim 19 under 35 U.S.C. §103(a) -- Yamagata in view of the Official Notice in view of Lopez et al. and further in view of Kobayasi et al.

At page 8, item 7 of the Office Action, the Examiner rejects claim 19 under 35 U.S.C. §103(a) as allegedly being unpatentable over Yamagata, in view of the Official Notice, in view of Lopez et al., and further in view of Kobayasi et al. This rejection is respectfully traversed.

Applicants would again like to point out that the rejection of claim 1 does not involve an Official Notice. As such, the Applicants can not fully respond to this rejection. As previously discussed herein, Yamagata fails to teach or suggest all of the limitations of claim 15. Furthermore, neither Lopez et al. nor Kobayasi et al. cure the deficiencies of Yamagata, even if combination of the three references were proper. Accordingly, claim 15 is deemed to be allowable over Yamagata, in view of Lopez et al., and further in view of Tsuchiya et al. Claim 19 depends from claim 15, and claim 19 is deemed to be allowable for at least the same reasons that claim 15 is deemed to be allowable.

Accordingly, this rejection should be withdrawn.

Rejection of claim 16 under 35 U.S.C. §103(a) -- Yamagata in view of the Official Notice in view of Lopez et al. and further in view of Shimomae et al.

At page 9, item 8 of the Office Action, the Examiner rejects claim 16 under 35 U.S.C. §103(a) as allegedly being unpatentable over Yamagata, in view of the Official Notice, in view of Lopez et al., and further in view of Shimomae et al. (U.S. Patent No. 5,327,260). This rejection is respectfully traversed.

Applicants would again like to point out that the rejection of claim 1 does not involve an Official Notice. As such, the Applicants can not fully respond to this rejection. As previously mentioned, Yamagata fails to teach or suggest all of the features of the image processing

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apparatus of claim 15. Furthermore, neither Lopez et al. nor Shimomae et al. cure the deficiencies of Yamagata, even if combination of the references were proper. Accordingly, claim 15 is deemed to be allowable over Yamagata, in view of Lopez et al., and further in view of Shimomae et al. Claim 16 depends from claim 15, and claim 16 is deemed to be allowable for at least the same reasons that claim 15 is deemed to be allowable.
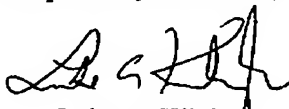
Accordingly, this rejection should be withdrawn.

CONCLUSION

In view of the foregoing remarks, the applicant respectfully requests the reconsideration of this application and the timely allowance of the pending claims.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0925. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,

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